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Notice of Allowability

Application No.

10/578,002

Examiner

Tung X. Le

Applicant(s)

UCHINO ET AL.

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/3/2006.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 5/3/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.



THUY V. TRAN
PRIMARY EXAMINER

DETAILED ACTION

This Office Action is in response to the Applicant's communication filed on May 03, 2006. In virtue of this filing, claims 1-13 are currently presented in the instant application.

Allowable Subject Matter

1. Claims 1-13 are allowed.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance:

Prior art of record fails to disclose or fairly suggest:

- A pixel circuit for driving an electro-optical element charging in luminance according to a flowing current, comprising a fifth switch connected between the data line and the fourth switch; and a sixth switch connected between the third node and the reference current supplying means, wherein, between the first reference potential and the second reference potential, the current supply line of the drive transistor, the first node, the third node, the first switch, and the electro-optical element are connected in series, in combination with the remaining claimed limitations as claimed in independent claim 1 (claims 2-11 are allowed as being dependent on claim 1).
- A display device comprising a fifth switch connected between the data line and the fourth switch; and a sixth switch connected between the third node and the reference current supplying means, wherein, between the

first reference potential and the second reference potential, the current supply line of the drive transistor, the first node, the third node, the first switch, and the electro-optical element are connected in series, in combination with the remaining claimed limitations as claimed in independent claim 12.

- A method for driving a pixel circuit comprising steps of holding the second, fourth, and the sixth switches in the conductive state and inputting the predetermined potential to the second node, sending the reference current in the third node, and charging predetermined potential in the pixel capacitor element; holding the second and sixth switches in the non-conductive state, and further holding the fourth switch in the non-conductive state, holding the fifth switch in the conductive state and inputting the data propagated through the data line to the second node, then holding the fifth switch in the non-conductive state; and holding the first switch in the conductive state and holding the third switch in the non-conductive state, in combination with the remaining claimed limitations as claimed in independent claim 13.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Drawings

3. The drawings submitted on May 03, 2006 are accepted.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

5. The information disclosure statement (IDS) submitted on May 03, 2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Citation of Relevant Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Miyazawa (U.S. Publication No. 2006/0290617 A1) discloses an electronic circuit, method of driving electronic circuit, electro-optical device, method of driving electro-optical device, and electronic circuit.

Prior art Kasai et al. (U.S. Publication No. 2006/0208972 A1) discloses an electronic circuit, electroluminescent display device, electro-optical device, electronic apparatus, method of controlling the current supply to an organic electroluminescent pixel, and method for driving a circuit.

Prior art Kasai (U.S. Publication No. 2005/0127845 A1) discloses a supply of a programming current to a pixel.

Prior art Miyazawa (U.S. Publication No. 2003/0062844 A1) discloses an unit circuit, electronic circuit, electronic apparatus, electro-optic apparatus, driving method, and electronic equipment.

Prior art Kasai (U.S. Patent No. 6,989,826 B2) discloses a driving of data lines used in unit circuit control.

Inquiry

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X. Le whose telephone number is 571-272-6010. The examiner can normally be reached on 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner
Tung Le
AU 2821

November 20, 2007

A handwritten signature in black ink, appearing to read 'Thuy V. Tran', written in a cursive style.

THUY V. TRAN
PRIMARY EXAMINER